

No.

200300112

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Virginia Tech Intellectual Properties, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

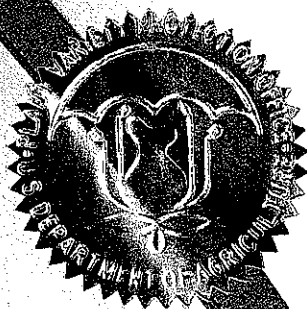
NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'38206'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this first day of July, in the year two thousand three.

Attest:



Commissioner

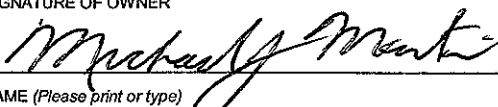
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICEAPPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Virginia Tech Intellectual Properties, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME VA97W-206		3. VARIETY NAME 38206	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Virginia Tech Intellectual Properties, Inc. 1872 Pratt Dr., Ste.1625 Blacksburg, VA 24060		5. TELEPHONE (include area code) 540-951-9378		FOR OFFICIAL USE ONLY RVPO NUMBER 200300112 FILING DATE 1/30/2003	
		6. FAX (include area code) 540-951-5292			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Virginia		9. DATE OF INCORPORATION June 20, 1985	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE (S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Carl A. Griffey Crop and Soil Environmental Sciences Virginia Tech Blacksburg, VA 24061-0404				FILING AND EXAMINATION FEES: \$ 2705.00 DATE 1/30/2003 CERTIFICATION FEE: \$ 432.00 DATE 6/11/2003	
11. TELEPHONE (Include area code) 540-231-9789		12. FAX (Include area code) 540-231-3431		13. E-MAIL Cgriffey@vt.edu	
				14. CROP KIND (Common Name) Wheat, Common	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22)		
			20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
			21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE NUMBER 1, 2, 3, etc. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER		
NAME (Please print or type) Michael J. Martin			NAME (Please print or type)		
CAPACITY OR TITLE Executive Vice President		DATE 1/20/03		CAPACITY OR TITLE	
				DATE	

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice, Section 97.103*).
21. See Section 83 of the Act for the Contents and Term of Plant Variety Protection.
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

Foundation seed of wheat variety 38206 was provided to seedsmen in fall 2001 for multiplication, and Select seed was first sold to growers in fall 2002.

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (2-99) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (6-98) which is obsolete.

38206 Wheat**14A. Exhibit A: Origin and Breeding History****Genealogy and Breeding Method**

Wheat cultivar 38206 (formerly tested as VA97W-206) was derived from cross VA88-54-338/VA89-52-39. The pedigree of VA88-54-338 is 'Lovrin 29'/'Tyler'/'Redcoat'*2/'Gaines' and VA89-52-39 has the parentage 'Saluda'/'Massey'. The cross was made in spring 1990, and the F₁ generation was grown in the field as a single 4ft headrow in 1991 to produce F₂ seed. The population was advanced from the F₂ to F₅ generation using a modified bulk breeding method.

Population Advancement and Selection of the Variety. Wheat spikes were selected from the population in each segregating generation (F₂ – F₄) on the basis of absence of obvious disease, early maturity, short straw and desirable head shape and size. Selected spikes were threshed in bulk, and the seed was planted in 225ft² blocks in the fall of each year. Spikes selected from the F₅ bulk were threshed individually and planted in separate 4ft headrows. The wheat line that was subsequently released as 38206 was derived as a bulk of one of these F₆ headrows selected in 1996. The line was tested as entry 206 in non-replicated observation tests in 1997 and was designated VA97W-206. This line was tested in replicated preliminary tests in 1998 (Table 3), in advance tests in 1999 (Table 2), and in the Virginia Variety Trials (Table 1) and USDA-ARS Uniform Southern Soft Red Winter Wheat Nursery (Table 4) in 2000.

Multiplication and Purification. Initial Breeder seed of 38206 (VA97W-206) was developed via removal of visual variants from a 0.12 acre F₈ purification block. This seed was planted on 3 acres at the VCIA Foundation Seed Farm in fall 1999 and produced 200 bu of Breeder seed. In fall 2000, 70 acres of 38206 wheat were planted, which produced 5000 bu of Foundation seed. While 38206 wheat has remained stable and uniform in composition through the last four generations of self-pollination, the initial Breeder seed of 38206 contained the following proportion of variants: up to 0.5% taller plants, 0.3% shorter plants, and 0.5% plants with longer awns.

In the fall of 1999, 280 F₁₀ headrows of 38206 wheat were planted to develop a purer source of Breeder seed. These rows were evaluated for uniformity and trueness of type several times during the growing season. Variant rows were removed and the remaining 251 rows were harvested in bulk to form a purer source of Breeder seed. This seed planted on 1.7 acres at the VCIA Foundation Seed Farm in fall 2000.

14B. Exhibit B: Novelty Statement

Wheat cultivar 38206 is uniquely different from all known cultivars. In comparison to other cultivars which 38206 has been tested with, it is most similar to 'FFR 555W'. Wheat 38206 is moderately resistant to powdery mildew (*Blumeria graminis*), while FFR555W is moderately susceptible (Tables 1-3). In field tests conducted over a 3 year period, mildew ratings (0=Immune to 9=completely susceptible) for 38206 versus FFR555W were significantly lower (L.S.D. = 1.0 at $P \leq 0.05$) in 1998 (score of 4 vs. 7), 1999 (score of 1 vs. 5), and 2000 (score of 0 vs. 5). FFR555W has gene *Lr10* governing resistance to leaf rust (*Puccinia triticina*) and is resistant to race TLGG (virulence for genes *Lr1*, 2a, 2c, 3, 9, 11, 18), while wheat 38206 does not possess gene *Lr10* and is susceptible to race TLGG.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK AND SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Virginia Tech Intellectual Properties, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

Virginia Tech Intellectual Properties, Inc.
1872 Pratt Dr., Ste. 1625
Blacksburg, VA 24060

FOR OFFICIAL USE ONLY

PVPO NUMBER

200300112

VARIETY NAME OR TEMPORARY DESIGNATION

38206

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 = SPRING 2 = WINTER 3 = OTHER (Specify) 1 = SOFT 2 = HARD 3 = OTHER (Specify)

1 = WHITE 2 = RED 3 = OTHER (Specify)

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
 NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINE 6 = LEEDS
7 = FFR555W 8 = Pioneer 2580

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH
 CM. TALLER THAN 8 = Pioneer 2580 9 = Coker 9835
 CM. SHORTER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = NUGAINE 6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTER COLOR:

1 = YELLOW 2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT 2 = PRESENT Waxy bloom: 1 = ABSENT 2 = PRESENT
 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT Internodes: 1 = HOLLOW 2 = SOLID
 NO. OF NODES (Originating from node above ground) CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (Specify) Droopy Flag leaf: 1 = NOT TWISTED 2 = TWISTED
 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
 MM. LEAF WIDTH (First leaf below flag leaf) CM. LEAF LENGTH (First leaf below flag leaf):

11. HEAD:

☐ 2 Density: 1 = LAX 2 = DENSE☐ 2 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) _____☐ 2 Awedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNEO☐ 2 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify) _____☐ 0 ☐ 7 CM. LENGTH☐ 1 ☐ 4 MM. WIDTH

12. GLUMES AT MATURITY:

☐ 3 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)
3 = LONG (CA. 9 mm.)☐ 3 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)☐ 1 Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED
4 = SQUARE 5 = ELEVATED 6 = APICULATE☐ 3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

☐ 2 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

☐ 1 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

☐ 2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

☐ 1 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL☐ 1 Check: 1 = ROUNDED 2 = ANGULAR☐ 1 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG☐ 1 Brush: 1 = NOT COLLARED 2 = COLLARED☐ 4 Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN
4 = BROWN 5 = BLACK☐ 3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____☐ 0 ☐ 6 MM. LENGTH☐ 0 ☐ 3 MM. WIDTH☐ 3 ☐ 1 GM. PER 1000 SEEDS

17. SEED CREASE:

☐ 1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'☐ 3 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 1 STEM RUST (Race) TPMK☐ 1 LEAF RUST (Race) Genes LR 1, 11+☐ 1 STRIPE RUST (Race) _____☐ 0 LOOSE SMUT☐ 2 POWDERY MILDEW☐ 0 BUNT☐ 2 OTHER (Specify) SBMV

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 0 SAWFLY☐ 0 APHID (Bydv.)☐ 0 GREEN BUG☐ 1 CEREAL LEAF BEETLE☐ 1 OTHER (Specify) HF Biotype LHESSIAN FLY
RACES:☐ 1 GP☐ 0 A☐ 1 B☐ 1 C☐ 1 D☐ 1 E☐ 0 F☐ 0 G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering		Seed size	
Leaf size		Seed shape	
Leaf color		Coleoptile elongation	
Leaf carriage		Seedling pigmentation	

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

38206 Wheat

14D. Exhibit D: Additional Description of 38206 Wheat.

Since wheat cultivar 38206 (VA97W-206) has not been tested in comparison with any of the six cultivars listed in Exhibit C, average data on performance in Virginia from 1998 to 2000 are presented in Tables 1-4. Wheat 38206 is a mid-season, high-yielding, medium-stature, apically awnleted, soft red winter wheat with good straw strength. Head emergence is three days later than Pioneer '2580' and two days earlier than 'FFR 555W'. Plant height of 38206 (35-36 inches) is three inches taller than 'Coker 9835' and two inches shorter than Pioneer 2580 and AGS 2000. Straw strength of 38206 is very good and similar to that of Pioneer 2580 and FFR 555W. It has better straw strength than 'Coker 9663'. In Virginia, grain yields of 38206 have been similar or exceeded those of the best check cultivars and have averaged 84 bu/ac versus 79 bu/ac for Pioneer 2580 and 75 bu/ac for the test average. Test weight of 38206 has ranged from 53.9 to 59.0 lb/bu with an average of 56.7 lb/bu. Its test weight has been consistently higher than that of FFR 555W (55.1lb/bu). Among 32 entries in the 2000 USDA-ARS Uniform Southern Soft Red Winter Wheat Nursery, 38206 ranked 2nd in grain yield (80 bu/ac) following AGS 2000 with the top yield of 83 bu/ac (Table 4). Average test weight of 38206 (57.5 lb/bu) was nearly 2 lb/bu higher than that of Coker 9835. Based on very limited data, winter-survival of 38206 is moderate. SS560 has acceptable milling and baking quality and is superior to Coker 9663 in this aspect (Table 5).

The older version of Exhibit C which limits disease reaction classes to resistant or susceptible was submitted with this PVP application; however, on the basis of the classifications in the revised Exhibit C, wheat 38206 exhibits an Intermediate to Resistant reaction to powdery mildew (*Blumeria graminis*), leaf blotch (*Septoria tritici*), glume blotch (*Stagonospora nodorum*), barley yellow dwarf virus, wheat spindle streak mosaic virus, and soil-borne mosaic virus. It exhibits an Intermediate to Susceptible reaction to leaf rust (*Puccinia triticina*), stem rust (*Puccinia graminis*), and stripe rust (*Puccinia striiformis*). It is susceptible to Hessian fly biotypes GP, B, C, D, E and L.

Table 1. Summary of performance of VA97W-206 in the Virginia Tech Wheat Test, 2000 harvest.*

Brand/Variety	Yield (Bu/A) (7)	Test Weight (Lb) (6)	Date Headed (Mar 31+) (4)	Height (In) (3)	Lodging** (0.2-10) (5)	Powdery Mildew (0-9)◇ (2)	Leaf Rust (0-9)◇ (2)	Barley Yellow Dwarf (0-9)◇ (2)
VA97W-206	80 +	57.3	32 +	37	1.0	0	3	2
USG 3209	83 +	57.3	27 -	36	1.8 +	0	5 +	2
PIONEER 2580(B)	76	56.1 -	28 -	38	0.3 -	0	3	2
PIONEER 2643(B)	75	57.0	29 -	34	0.2 -	0	3	2
ROANE	74	58.8 +	33 +	37	0.7	2	3	2
MADISON(B)	71 -	55.5 -	29 -	40	1.2	1	5 +	2
VA96W-403WS	70 -	55.2 -	34 +	41	0.8	1	3	2
COKER 9835(DA)	70 -	56.2 -	30	35	0.4	1	4	2
COKER 9663(DA)	68 -	57.7 +	29 -	43	1.6	3	0 -	2
FFR 555W(B)	63 -	55.3 -	33 +	38	0.3 -	5	6 +	4 +
Test Average	75	56.9	30	38	1.0	1	3	2
L.S.D. (0.05)	3	0.5	1	—	0.7	1	2	1
C.V.	8	1.5	3	3	102.7	87	49	25

* Varieties are ordered by descending statewide averages. A plus or minus sign indicates a performance significantly above or below the test average. The number in parentheses below column headings indicates the number of locations on which data are based.

** Belgian Lodging Scale = Area X Intensity X 0.2. Area = 1-10, where 1 is wheat unaffected and 10 is entire plot affected and Intensity=1-5, where 1 is wheat standing upright and 5 is wheat lying totally flat.

◇The 0-9 ratings indicate relative disease intensity where 0=none and 9=total plant infection.

Table 2. Summary of performance of VA97W-206 in the Advance Wheat Test at three locations in Virginia and one location in North Carolina, 1999. The number below each column heading indicates the number of locations upon which data are based.

Line	Test		Heading		Plant		Powdery			Winter	
	Yield (bu/A)	Weight (lbs/bu)	Date (Julian)	Height (in)	Lodging (0.2-10) ¹	Leaf Rust (0-9) ²	Mildew (0-9)	Septoria (0-9)	BYDV (0-9)	Kill (0-9)	
FER 555W	4	4	2	2	1	3	2	1	3	1	
Pioneer 2580	69.2	58.4	129	34	0.3	5	5	1	4	3	
Pioneer 2643	86.6	58.6	123	35	0.2	5	1	1	2	1	
Madison	83.2	59.5	123	31	0.2	5	1	1	3	1	
Agripro Patton	79.8	57.9	123	38	0.2	4	2	1	2	1	
Pocahontas	78.0	58.7	125	37	0.4	1	2	1	3	0	
Roane	84.6	59.6	122	35	0.2	5	1	1	3	1	
Coker 9663	88.0	61.6	128	34	0.2	4	0	1	1	0	
VA97W-206	75.9	59.3	123	39	0.6	0	4	1	1	3	
Test Mean	94.0	59.0	126	33	0.2	3	1	1	2	1	
LSD	83.2	59.1	125	34	0.3	3	1	1	2	1	
	5.7	0.5	1	1	0.3	1	1	1	1	1	

¹ Belgian Lodging Scale=area x intensity x 0.2. Area is rated on a scale from 1 (plot unaffected) to 10 (entire plot affected). Intensity is rated on a scale from 1 (plants standing upright) to 5 (plants lying totally flat on the ground).

² All 0-9 ratings indicated relative disease severity: 0 = no disease present; 9 = total plant infection.

Table 3. Summary of performance of VA97W-206 in the Preliminary Wheat Test at three locations in Virginia and two locations in North Carolina, 1998. The number below each column heading indicates the number of locations upon which data are based.

Line	Yield (bu/A)	Test		Plant Height (in)	Lodging (0.2-10) ¹	Leaf Rust (0-9) ²	Powdery Mildew		Septoria (0-9)	WSSV (0-9)	Winter Kill (%)
		Weight (lbs/bu)	Date (Julian)				(0-9)	(0-9)			
	4	4	2	2	3	3	2	2	1	1	1
Massey	56	53.9	121	41	3.6	7	3	3	7	3	0
Madison	71	54.0	118	40	2.0	5	4	4	6	3	0
Jackson	66	54.4	120	37	2.9	6	5	5	3	4	1
FFR 555W	54	51.6	122	37	0.8	6	7	7	4	4	0
Pioneer 2580	73	53.2	117	37	1.2	5	3	3	5	4	0
VA97W-206	77	53.9	120	35	1.7	6	4	4	5	3	0
Test Mean	64	53.4	119	35	3.0	4	3	3	5	3	4
LSD (0.05)	7	1.6		1	1.4	2	1	1	1		

¹ Belgian Lodging Scale=area x intensity x 0.2. Area is rated on a scale from 1 (plot unaffected) to 10 (entire plot affected). Intensity is rated on a scale from 1 (plants standing upright) to 5 (plants lying totally flat on the ground).

² All 0-9 ratings indicated relative disease severity: 0 = no disease present; 9 = total plant infection.

Table 4. Summary of performance of VA97W-206 in the Uniform Southern Soft Red Winter Wheat Nursery in Virginia, 2000.

Line	Overall Yield for Test	Yield in VA (bu/A) ¹	Test Weight (lbs/bu)	Heading Date (Julian)	Plant Height (in)	Lodging (0.2-10) ²	Powdery Mildew (0-9) ³	Powdery Mildew (0-9) ⁴	Leaf Rust (0-9)	BYDV (0-9)	BYDV (0-9) ⁴	Plant Height on 3/24/00 (in) ⁵	Juvenile Plant Growth Habit (0-5) ⁶
Coker 9835	69.9	78.9	57.3	121	35	0.7	5	3	5	0	4	13.2	2
Coker 9663	73	80.1	60.1	119	40	1.6	6	5	0	0	3	13.5	1
Mason	69.9	77.9	57.3	114	38	1.2	4	7	0	0	7	12.7	2
AGS 2000	82.8	98.5	59.1	115	38	0.6	3	0	0	0	6	13.7	2
VA97W-206	79.7	97.6	57.9	121	34	0.4	3	1	4	0	4	11.0	1
Test Mean ⁷	68.3	77.3	58.1	119	36	1.3	5	3	1	0	4	12.2	1
LSD		7.3	0.6	1	1	0.8	1		1	1		1.2	0

¹The "Overall Yield for Test" data are based on 27 locations within the southern U.S.

²Belgian Lodging Scale=area x intensity x 0.2. Area is rated on a scale from 1 (plot unaffected) to 10 (entire plot affected). Intensity is rated on a scale from 1 (plants standing upright) to 5 (plants lying totally flat on the ground).

³All 0-9 ratings indicated relative disease severity: 0 = no disease present; 9 = total plant infection.

⁴Data obtained from a one-replication observation test in Blacksburg, VA.

⁵This height measurement serves as an estimate of spring growth habit.

⁶Juvenile plant growth habit: 0 = prostrate, 5 = very erect.

⁷Test means are based on data from all 40 test entries.

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Table 5. Milling and Baking Quality of VA97W-206											
1999-2000 Uniform Southern Soft Red Winter Wheat Nursery											
Entry	Milling Score	Milling Grade	Bake Score	Bake Grade	Softness Score	Flour Yield	Flour Protein	Water Absorb	Cookie Diameter		
	0 to >100	A to F	0 to >100	A to F	Higher is softer	%	%	Lower is best	Higher is best		
Region 1+											
Coker 9835	104.8	A	95.3	B	64.9	71.2	8.13	61**	18.01		
Coker 9663	96.2	B	92.6	C	52.0**	70.9	8.52	56.3	17.76		
Mason	100	A	99.9	A	59.2	70.8	8.9	57.3	17.91		
AGS 2000	105.5	A	106.3	A	58.3	73.1	8.75	56.5	18.15		
VA97W-206	97	B	95.7	B	53.7*	70.8	7.96	54.8	17.83		
Region 2+											
Coker 9835	103.4	A	96	B	61.7	71.2	7.96	59.5*	17.9		
Coker 9663	92.3	C	85.6	D	48.3**	70.1*	8.76	58.4	17.7*		
Mason	100	A	100	A	54.2	71.1	9.18	57.2	17.9		
AGS 2000	104.3	A	96.4	B	52.7	73.1	9.52	56.8	17.8		
VA97W-206	95.6	B	93.9	C	52.9	70.2*	9.52	56.8	17.6*		

+Region 1 includes most states in the deep south.
 Region 2 includes most states in the upper south.
 Mason was used as the quality standard.

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Virginia Tech Intellectual Properties, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER VA97W-206	3. VARIETY NAME 38206
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 1872 Pratt Dr., Suite 1625 Blacksburg, VA 24060	5. TELEPHONE (include area code) 540-951-9374	6. FAX (include area code) 540-951-5292
7. PVPO NUMBER 200300112		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO
If no, give name of country

10. Is the applicant the original owner? ☐ YES ☒ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☒ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

Original owner Virginia Polytechnic Institute and State University assigned its ownership to current owner Virginia Tech Intellectual Properties Inc. (see attached)

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotope, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

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GERMPLASM GROUP ASSIGNMENT

01.053	VA96W-403WS
01.054	VA97W-206
01.055	VA96W-56
01.056	VA96-54-372
01.057	VA96W-391

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY (hereinafter referred to as the "UNIVERSITY"), assigns to VIRGINIA TECH INTELLECTUAL PROPERTIES, INC. (hereinafter referred to as "VTIP") all rights, title and interest in and to all of the above-listed GERMPLASMS as held by the UNIVERSITY.

The UNIVERSITY, by its authorized agents, agrees that it will execute all necessary assignments as requested by VTIP, to facilitate the filing of patent applications and/or copyright registrations. It will render any reasonable assistance requested to aid in preparation of such applications and/or registrations.

The UNIVERSITY shall retain the right to make use of the GERMPLASMS for internal research and other non-commercial purposes without cost to the UNIVERSITY.

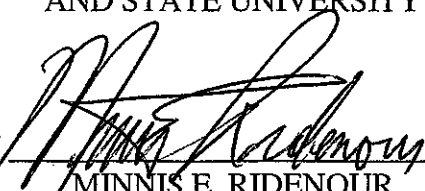
All royalties, rents, payments, or any cash receipts from the sale, assignment, transfer, licensing or use of the GERMPLASMS shall be the property of VTIP and shall be distributed according to the provisions of the Virginia Agricultural Experiment Station (VAES) Plant Germplasm Release Policy (PGRP).

Prior to the execution of this Assignment, the UNIVERSITY has not granted the right of license to make, use, or sell said GERMPLASM to anyone except to VTIP, nor has it otherwise encumbered its rights, title and interest in said GERMPLASM, and it will not execute any instrument in conflict with this Assignment.

IN WITNESS WHEREOF, the UNIVERSITY has caused this Assignment to be signed this 4th day of June, 2001.

VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

BY


MINNIS E. RIDENOUR
Chief Operating Officer

200300112

STATE OF VIRGINIA

COUNTY OF MONTGOMERY, to-wit:

The foregoing instrument was acknowledged before me this 4TH day of
JUNE, 2001, by MINNIS E. RIDENOUR, COO
of Virginia Polytechnic Institute and State University, on behalf of said University.



Notary Public

My commission expires: 12/31/04